



AMENDMENTS

Amendments to the Specification

Please amend the following paragraphs, wherein the deleted matter is shown by strikethrough and the added matter is shown by underlining.

On page 1, line 5, immediately after the title of the application, please insert the following paragraph:

CROSS REFERENCE TO RELATED APPLICATIONS

This application claims priority to U.S. Provisional Patent Application Serial No. 60/214,705, filed June 27, 2000, the entire contents of which are hereby incorporated by reference.

Please delete the paragraph on page 1, lines 12-14.

Please delete the paragraph on page 28, lines 20-27, and replace it with the following paragraph:

The sequence of the entire genome of the cyanobacterium *Synechocystis* PCC 6803 has been determined and published.

(<http://www.ncbi.nlm.nih.gov/entrez/framik?db=Genome&gi=112> or <http://www.kazusa.or.jp/cyano/kwd.html>). When the genome of *Synechocystis* PCC 6803 was published, subsequent to cloning of the original AHAS large subunit gene a search was done on the genome for other AHAS genes. The search found an additional gene with a high degree of homology to AHAS sequences. This gene in *Synechocystis* is designated s111981 and annotated as *ilvB*.

Please delete the paragraph on page 40, lines 9-19, and replace it with the following paragraph:

The promoter and transit sequence from the *Arabidopsis* AHAS large subunit was chosen to be fused to the *Synechocystis* AHAS large subunit gene, as there was a large degree of

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homology. The *Arabidopsis* *Arabidopsis* genome has been sequenced and the physical and sequence information for AHAS large subunit can be found at

<http://www.arabidopsis.org/servlets/mapper?value=CSR1&action=search>. One skilled in the art could use the information at this database to perform the cloning as follows. The final result would contain the ~~promoter~~ promoter and transit sequence of the *Arabisopsis* *Arabidopsis* AHAS gene, followed by the *Synechocystis* gene, followed by the *Arabidopsis* *Arabidopsis* terminator. The source of the promoter and transit sequence was the construct pAC793, (which consisted of a vector and an insert with a genomic fragment containing the *Arabidopsis* AHAS promoter, transit sequence, coding region, and terminator.)

Please delete the abstract on page 55, lines 3-13, and replace it with the following paragraph:

This invention provides an alternative source of *ahas* and *pds* nucleic acids for plant transformation and selection. In particular, the invention provides *ahas* and *pds* nucleic acids from cyanobacteria, for example, *Synechocystis*, and expression elements of these genes for control of expression in plastids. The invention further provides nucleic acids encoding the acetolactate synthase (*ahas*) large subunit and the *ahas* small subunit which were found to provide herbicide resistance to plants. The present invention also provides a novel *Synechocystis* mutant phytoene desaturase (*PDS*) gene conferring resistance to 4'-fluoro-6-[*(alpha, alpha, alpha, -trfluoro-m-tolyl)oxy*]-picolinamide, a bleaching herbicide. The present invention provides improved methods involving cyanobacteria for the screening of compounds, including a new high throughput protocol that is a rapid and cost effective way to identify target site genes.